

Claims

1. A surgical stapling device comprising an elongate housing, a surgical staple slidable longitudinally
5 within the housing towards a free forward end thereof, the staple having a back and two forwardly pointing legs, an actuator slidable forwardly within the housing for driving the staple towards the free end of the housing, means for restraining the back of the staple
10 against forward movement beyond a predetermined point such that further forward movement of the actuator bends the staple to bring the free ends of the legs towards one another to close the staple, and means for releasing the closed staple, wherein the back of the
15 staple has a rearward extension and the restraining means comprises means for restraining the extension.
2. A device as claimed in claim 1, wherein the rearward extension is rupturably joined to the back of
20 the staple, the staple being released by forward movement of the actuator beyond the point at which the staple is closed while the extension is restrained, thereby to rupture the join.
- 25 3. A device as claimed in claim 1 or 2, wherein the back of the staple is disposed substantially transverse the longitudinal axis of the housing and the two forwardly pointing legs extend at an angle from opposite ends of the back, the staple back having a
30 centre section and two outer sections, the actuator engaging the outer sections of the staple back and the

restraining means restraining the centre section of the staple back such that the said further forward movement of the actuator bends the outer sections of the staple back forwardly relative to the centre section.

5

4. A device as claimed in claim 3, wherein the staple back is adapted for preferential bending at the junction between the centre and outer sections.

10

5. A device as claimed in claim 4, wherein the extension extends rigidly from the staple back and has a stop means which comes to abut against a cooperating stop means within the housing when the back of the staple reaches the predetermined point.

15

6. A device as claimed in claim 3, 4 or 5, wherein the centre section of the staple back has a greater area in a plane normal to the longitudinal axis of the housing than the outer sections.

20

7. A device as claimed in claim 3, 4 or 5, wherein there are two staples disposed spaced apart one above the other and each has a respective rearward extension, the rearward extensions being connected together and

25

both staples being driven forwardly and closed simultaneously by at least one actuator.

8. A device as claimed in claim 7, further including an elongated locator member slidable axially within the housing between a forward position wherein the locator member projects beyond the free end of the housing to

30

enter a puncture site in a liquid-carrying vessel in a human or animal, thereby to locate the free end of the housing at the puncture site, and a rearward position wherein the locator member is retracted into the

5 housing, the locator member passing between the two rearward extensions and being retracted into the housing prior to closure of the staples.

9. A device as claimed in claim 8, wherein the

10 locator member comprises a hollow tube and a guidewire extends within the locator tube and emerges from the forward end of the tube.

10. A device as claimed in any preceding claim,

15 wherein the staple and rearward extension are made as an integral structure by stamping and bending a metal sheet.

11. A surgical staple comprising a back and two

20 forwardly pointing legs, wherein the back of the staple has a rearward extension to allow the back of the staple to be restrained against movement in a surgical stapling device while the legs are bent towards one another by forward movement of an actuator to close the

25 staple.